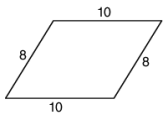
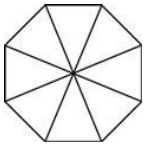
2D Figures Homework

1. Look at the figure below. Which statement about this figure is **true?**

A. This figure can be named as a parallelogram and a quadrilateral.
B. This figure can be named as a parallelogram and a rhombus.
C. This figure can be named as a parallelogram and a square.
D. This figure can be named only as a parallelogram.



2. This regular polygon is divided into triangles that are the same size.



Which term best describes the triangles in this polygonn?

A. acute isosceles
B. acute scalene
C. obtuse isosceles
D. obtuse scalene

3. Michael used a geometric feature to sort shapes into two groups as shown in the chart below.

Shapes

Group A	Group B
rhombus	trapezoid
parallelogram	triangle
square	hexagon

Which shape in Group B could also be included in Group A?

A. rectangle
B. pentagon
C. circle
D. cube

4. All triangles have three sides and three angles. The sum of the angles equals 180 degrees. Julia created a flag that is in the shape of a triangle. Which statement is always true about her flag?

A. It has three sides of equal length.

B. It has three angles that have equal measures.

C. The sum of the angles equals 180 degrees.

D. The measure of one angle equals 180 degrees.

5. The sides of a triangular sculpture in a museum measure 18 inches, 12 inches, and 27 inches. What type of triangle does the sculpture form?

A. right

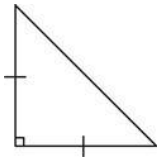
B. scalene

C. isosceles

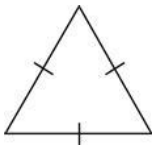
D. equilateral

6. Which figure is an example of an obtuse isosceles triangle?

A.



B.



C.

D.

7. Which statement is true for all parallelograms and for all trapezoids?

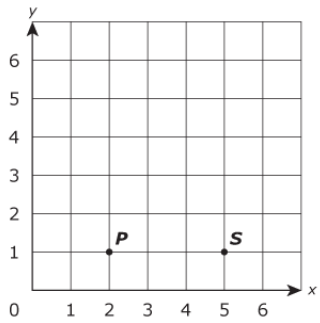
A. All parallelograms and trapezoids have no lines of symmetry.

B. All parallelograms and trapezoids have at least one pair of parallel sides.

C. All parallelograms and trapezoids have only one obtuse angle.

D. All parallelograms and trapezoids have diagonals that intersect each other at right angles.

8. Points *P* and *S* are two vertices (corners) of quadrilateral *PQRS.*



Part A If the quadrilateral is a rectangle, what could be the coordinates of vertices *R* and *S*? Show or explain your reasoning. (*hint: plot the coordinates and connect the dots to trace the rectangle*)

Part B What are the dimensions *(length and width*) of the figure? Show or explain your reasoning.

9. Use these special names for quadrilaterals to answer the questions.

- Trapezoid
- Parallelogram
- Rectangle
- Rhombus
- Square

Part A Are there any quadrilaterals in the list that are not parallelograms? If your answer is yes, identify each quadrilateral by name and explain why it is not a parallelogram. If your answer is no, explain why all the quadrilaterals are parallelograms.

Part B Are there any rectangles that are not parallelograms? If your answer is yes, identify each quadrilateral by name and explain why it is not a parallelogram. If your answer is no, explain why all the rectangles are parallelograms.

Part C Is there a quadrilateral in the list that could have only one pair of equal sides that is not a rectangle? If your answer is yes, identify the quadrilateral by name and explain why it is not a rectangle. If your answer is no, explain why all the quadrilaterals are rectangles.

10. Which statement is not true?

A. All rectangles are squares.

B. All squares are parallelograms.

C. Some quadrilaterals are trapezoids.

D. Some parallelograms are rhombuses.